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advanced wives? It is rather hard for Nature to follow, or even compete, with the fast driving of the evolutionary disciples, but as she is after all a very good natured old lady I have no doubt she will do her best not to stay too far behind the prevailing views of evolution.

Concerning the new species, "*O. inermis*," the description of the single specimen does not give any character by which to separate it from the old species, *C. pellucidus*. I have not seen Prof. Cope's type, and, though he states that his specimen is a male, he omits to inform us to which of the two forms of males it belongs, but his description applies perhaps to the second form of the male, the characters of which are always less marked than in the first.—DR. H. HAGEN.

GEOLOGY.

NEW AND REMARKABLE FOSSILS.—We copy from the "College Courant" the following summary of the latest published results of Prof. Marsh's expeditions to the West;—The extensive collection of fossil vertebrate remains which were made in the West by the Yale expeditions of 1870 and 1871, are yielding, in the hands of Professor Marsh, results of the greatest value to palæontological science. Ten important papers upon the new material thus obtained have already been contributed by "this indefatigable palæontologist" to the "American Journal of Science," the last three of which relate exclusively to the collections of 1871. The first of these later papers, published in April, contains a description of some Pterosaurian remains, additional to those discovered by the expedition of 1870, of which an account was published about a year ago. To the gigantic species of pterodactyl then obtained, Professor Marsh gave the name *Pterodactylus occidentalis*. The expedition of 1871, in exploring the original locality in Western Kansas, not only obtained further portions of the same skeleton, but secured other specimens which prove the existence of two other gigantic pterodactyls during the later Cretaceous. The characters of *Pterodactylus occidentalis* are derived from the study of portions of five individuals. They show clearly that the species belongs to the short-tailed or true Pterodactyls, and that it contains some of the largest "flying dragons" yet discovered, the spread of wing in these individuals being from eighteen to twenty feet! Its large tearing teeth clearly indicate the carnivorous and predaceous habits of the species, and its food was doubtless fishes which it captured, probably by plunging into the water like the pelicans and other similar birds. Two new species, *P. ingens* and *P. velox*, are also described in the same paper. The former was even more gigantic than the one just mentioned, being at least double its bulk and measuring from tip to tip of the expanded wings fully twenty-two feet! *P. velox* was about two-thirds this size, having a spread of wing of from twelve to fifteen feet. The great interest attaching to these fossils lies in the fact that, up to the time of their discovery, no remains of these flying Saurians had been detected in this country, although they are found abundantly in the Cretaceous of Europe.

In the same number, Professor Marsh announces that the Mosasauroid reptiles were protected by osseous dermal plates. Specimens belonging to the genera *Edestosaurus*, *Liodon*, *Holcodus* and *Clidastes* have been obtained with these plates attached. These dermal "scutes," as they are termed, are quadrilateral in form, with the margin of the upper side more or less bevelled, so as to admit an imbricate arrangement; alternate rows of different sizes and shapes thus producing a complex pattern. The cranium was probably not thus protected.

In the May "Journal of Science" Professor Marsh describes the remarkable gigantic swimming bird, discovered in Western Kansas, to which he gives the name *Hesperornis regalis*. The skeletons of five individuals of this species, more or less complete, were obtained. From these, it appears that while Hesperornis differs widely from all known birds, recent or extinct, it has its nearest living allies in the Colymbidæ, or divers. The skeleton complete, would measure about five feet nine inches from the apex of the bill to the extremity of the toes. The extreme rarity of birds in the Cretaceous formation, even of any kind, renders this discovery of great importance. But it is especially so, when it is remembered that all the birds hitherto discovered, either in the Cretaceous of this country or of Europe, are of comparatively small size, and belong to still existing families; such as the swan-like bird (*Laornis*), the wading birds (*Paleotringa*), the rails (*Telmatornis*), and the cormorants, (*Graculavus*), which Professor Marsh has already described from the American Cretaceous.

But the most valuable of Professor Marsh's papers is the last, which appears in the "Journal of Science" for June. It is a review of the "Structure of the Skull and Limbs in Mosasauroid reptiles," made possible only by the richness of the Yale Museum in the remains of these remarkable animals. Though this paper is almost entirely a technical one, yet the results are obviously of high scientific interest. Prof. Marsh shows that the quadrate bone of the skull as given by Professor Cope should be reversed, by finding a skull of *Lestosaurus* with this bone in position. Moreover, his explorations have discovered the stapes, the columella, the quadratoparietal arch, the malar arch and the pterotic bone, belonging to the cranium; and have proved the exact character of the anterior limbs and the presence of posterior limbs in these reptiles. They also show that the neck in the Mosasaurus group was unusually short. Two new genera, *Lestosaurus* and *Rhinosaurus*, are described; under the former, four new species are included. *Rhinosaurus micromus* Marsh and *Edestosaurus rex* Marsh, are also here described. The paper is illustrated by four admirable lithographic plates.

MICROSCOPY.

CELLS FOR MOUNTING OBJECTS.—A recent discussion on this subject at the Queckett Microscopical Club in London, developed several important suggestions.

Lead cells. Mr. James Smith introduced the subject by a paper "On Cell Mounting." He used cells of sheet lead; flattening the sheet on a plate of glass by rubbing with an ivory paper knife, and cutting or punching cells which were subsequently flattened by pressure between two ordinary glass slides. Dr. Matthews suggested flattening the lead upon a plate of glass, by rolling, and cross rolling, with a piece of barometer tube. The Chairman, Henry Lee, Esq., remarked that Dr. Bowerbank had for years used exclusively tea lead for his smaller cells and common plumbers' lead for his larger cells: all his large collection of sponges were successfully mounted in this way. The secretary, Mr. T. C. White, had been in the habit for many years of using cells of thin sheets known as "pattern lead" used by dentists; the cells being easily stuck on with marine glue, and not melting if the slide should be made nearly red-hot.